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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,534	06/10/2005	Hye-Jung Kang	5252ROK-1	8312
22442	7590	10/03/2008	EXAMINER	
SHERIDAN ROSS PC 1560 BROADWAY SUITE 1200 DENVER, CO 80202			EDWARDS, LYDIA E	
			ART UNIT	PAPER NUMBER
			1797	
			MAIL DATE	DELIVERY MODE
			10/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,534	Applicant(s) KANG ET AL.	
	Examiner LYDIA EDWARDS	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/21/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/7/2005, 4/24/2007, 6/6/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over VALTION TEKNILLINEN et al. (WO 95/27795) in view of Young et al. (US 5591635) and further in view of Pagga (*Biodegradability and Compostability of Polymeric Materials in the context of the European Packaging Regulation*, Polymer Degradation and Stability 59 (1998) 371-376) in light of Muller et al. (US 5961906).

Regarding Claims 1 and 5, VALTION TEKNILLINEN et al. discloses an apparatus and method for measuring biodegradability of polymer sample, comprising: he teaches the use of a pump (Page 5 [1]) to dispose air for aeration but does not explicitly state wherein a compression pump for compressing air is used and wherein a first air controlling unit is connected to the compression pump so as to control a flow rate and pressure of compressed air discharged from the compression pump.

Muller also discloses an apparatus and method for measuring biodegradability of polymer sample.

Young et al. discloses wherein a compressed air system can be used in a composting device further equipped with an air controlling unit (Col 9, lines 38-57 [150, 200]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify VALTION TEKNILLINEN et al. with a compression pump and air controlling unit as taught by Young et al. in order to provide an automated air intake system to supply fresh air to the composting device for continuous aeration and moisture control.

VALTION TEKNILLINEN et al. also disclose a carbon dioxide removing device connected to the first air controlling unit so as to remove carbon dioxide from the compressed air; a filter connected to the carbon dioxide removing device so as to remove contaminating materials from the carbon dioxide-removed air (Pages 5, lines 9-37; Page 6, lines 1-8; Page 8, lines 1-16; Claims 4-5).

VALTION TEKNILLINEN et al. does not explicitly state wherein a cooling device is used. However it is well known in the art that composting must take place in a closed vessel at a constant relatively low temperature since most microorganisms cannot survive at temperatures

Art Unit: 1797

above 60-65 degrees. Pagga (Page 373) and Muller (Col 6, lines 51-64) both show an apparatus for measuring biodegradability of polymer sample in which the temperature of the composting vessel is held at 58 degrees.

Young et al. discloses a first cooling device that is controlled by computer [200] (Col 5, lines 31-55; Col 9, lines 14-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify VALTION TEKNILLINEN et al. with a cooling device as taught by Young et al. to regulate the composting process.

VALTION TEKNILLINEN et al. teaches at least two composting vessels, one of the composting vessels containing the biodegradable polymer sample and compost (Page 8, lines 34-37). However it is well known in the art as shown by Pagga (Page 373) and Muller (Col 6, lines 51-64), to have a blank or control vessel with only compost along with a vessel that contains both compost and polymer.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify VALTION TEKNILLINEN et al. with a cooling device as taught by Young et al. that is connected to the two composting vessels as to regulate the temperature since most microorganisms cannot survive at temperatures above 60-65 degrees.

The combination of VALTION TEKNILLINEN et al. and Young et al. does not disclose at least two second cooling devices respectively connected to the composting and at least two second air controlling units respectively connected to the second cooling devices so as to control flow rates of the air discharged from the second cooling devices.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate two additional cooling devices and air controlling units, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

VALTION TEKNILLINEN et al. does not disclose wherein an IR gas analyzer is used.

Pagga (Page 373) and Muller (Col 6, lines 51-64) both disclose the use of an IR gas analyzer.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify VALTION TEKNILLINEN et al. with an IR gas analyzer as taught by both Pagga and Muller in order to provide a means for detecting the concentration of carbon dioxide.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate an additional IR gas analyzer, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

The combination of VALTION TEKNILLINEN et al. and Young et al. does not explicitly state wherein collection units are respectively connected to the gas analyzers so as to collect the air passed through the gas analyzers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a collection unit to receive the spent air from the gas analyzer to prevent human exposure to larger than usual amounts of carbon dioxide and to further prevent environmental problems.

VALTION TEKNILLINEN et al. does disclose a computer that is connected to a data gathering device (Pages 5, line 36- Page 6, line 4) that receives data from the composting vessels. The data gathering device receives information from the electrode placed in the measuring jar [6] for processing and measuring the voltage signals which is used to calculate the concentration of Carbon Dioxide. The examiner deems this to be an equivalent gas analyzer.

He does not explicitly state wherein a computer is connected to a first and second air controlling unit, as to receive data therefrom.

Art Unit: 1797

It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect a computer to a first and second air controlling unit, as to receive data therefrom, since it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 USPQ 192.

Regarding Claim 3, VALTION TEKNILLINEN et al. does not disclose wherein each of the second air controlling units comprises a needle valve and a flow meter.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate each of the second air controlling units comprises a needle valve and a flow meter, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding Claim 4, VALTION TEKNILLINEN et al. does disclose wherein the carbon dioxide removing device comprises a vessel containing a sodium hydroxide solution (Page 5). However he does not disclose a stirrer.

It would have been an obvious matter of design choice to include a stirrer, since applicant has not disclosed that a stirrer solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the sodium hydroxide granules that are placed in the absorption tube.

Art Unit: 1797

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over VALTION TEKNILLINEN et al. (WO 95/27795) in view of Young et al. (US 5591635) and further in view of Pagga (*Biodegradability and Compostability of Polymeric Materials in the context of the European Packaging Regulation*, Polymer Degradation and Stability 59 (1998) 371-376) in light of Muller et al. (US 5961906) as applied above in claim 1 further in light of Zheng et al. (US 20010029979).

Regarding Claim 2, VALTION TEKNILLINEN et al. does not disclose wherein the first air controlling unit comprises a needle valve, a flow meter, a manometer, and a check valve. However, it is well known in the art to use a device for controlling and supplying gas (compressed air) as taught by Zheng et al. (US20010029979).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was to modify VALTION TEKNILLINEN et al. with an air controlling unit comprising a needle valve, a flow meter, a manometer, and a check valve in order to further regulate the aeration of the composting vessel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LYDIA EDWARDS whose telephone number is (571)270-3242. The examiner can normally be reached on Mon-Thur 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571.272.1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LYDIA EDWARDS/

Examiner

Art Unit 1797

LE

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797